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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,100	12/29/2000	David E. Baraff	022972-00005	6391

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EXAMINER

STEVENS, THOMAS H

ART UNIT	PAPER NUMBER
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2123

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DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,100

Applicant(s)

BARAFF ET AL.

Examiner

Thomas H. Stevens

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. Claims 1-11 was reviewed for prosecution.

Drawings

2. Figures 1a and 1b are illustrated examples of animation and thus should be considered as prior art.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. No clear description of the Inertial Field Generator in relation to the claims.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

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6. Claims 2,4, and 11, are rejected because "unreasonable" is vague and indefinite.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 1-5 and 8-11 are rejected under 35 U.S.C. 102(a) as being anticipated by Popovic et al. ("Interactive Manipulation of Rigid Body Simulations" ACM July 2000).

Popovic et al. teaches interactive techniques for intuitive manipulation of rigid multi-body simulations (abstract: second paragraph).

Claim 1: A method of simulating relative motion of objects in computer animation comprising the steps of: providing a motion of a kinematic object, where the kinematic object is an element of a computer animation display (abstract); providing at least one dynamic object associated with said kinematic object (pg. 210, Related Work Section, left column, first paragraph) where said at least one dynamic object is another element of the computer animation display and where motions of said at least one dynamic object are based on the motion of the kinematic object (figure 1); selectively manipulating the motions of said at least one dynamic object to simulate physical motion (pg.210-211, Interactive

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Manipulation); and displaying the elements of the computer animation display, including associated motions of said elements.

Claim 2: A method of simulating relative motion of objects according to claim 1 wherein said step of selectively manipulating comprises compensating for unreasonable motions of said at least one dynamic object when the kinematic object undergoes exaggerated motion (pg. 211, left column, forth paragraph).

Claim 3: A method of simulating relative motion of objects according to claim 2 wherein said exaggerated motion comprises accelerations that are unrealistic for humans (figure 5).

Claim 4: A method of simulating relative motion of objects according to claim 2 wherein said step of selectively manipulating comprises compensating for the unreasonable motions of said at least one dynamic object when the kinematic object undergoes accelerated motions above a predetermined limit (figure 1).

Claim 5: A method of simulating relative motion of objects according to claim 1 wherein said kinematic object is an animated character and said at least one dynamic object is coupled to the animated character (pg. 215, left column, second paragraph).

Claim 8: A method of simulating relative motion of objects according to claim 1 wherein said at least one dynamic object comprises a first set of dynamic objects

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and a second set of dynamic objects and said step of selectively manipulating the motions of said at least one dynamic object comprises selectively manipulating motions of said first set of dynamic objects with respect to a first reference point on said kinematic object and selectively manipulating motions of said second set of dynamic objects with respect to a second reference point on said kinematic object (pg. 215, left/right columns, last paragraph and first paragraph, respectively).

Claim 9: A method of simulating relative motion of objects according to claim 1 wherein said at least one dynamic object comprises a plurality of dynamic objects coupled to a plurality of reference points on said kinematic object and wherein said step of selectively manipulating the motions of said at least one dynamic object comprises manipulating the motions of each of said plurality of dynamic objects with respect to said plurality of reference points coupled thereto (pg. 215, left/right columns, last paragraph and first paragraph, respectively).

Claim 10: A method of simulating relative motion of objects according to claim 9 wherein said kinematic object is an animated character and said plurality of dynamic objects are coupled to the animated character and said plurality of reference points are different points on the animated character (pg. 217, figure 5).

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Claim 11: A method of simulating relative motion of objects according to claim 9 wherein said step of selectively manipulating comprises compensating for unreasonable motions of said plurality of dynamic objects when the kinematic object undergoes exaggerated motion (pg. 217, figure 5).

Claim Rejections - 35 USC § 103

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having

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ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 6 and 7 are rejected under 35 U.S.C. 103 (a) as unpatentable by Popovic et al. ("Interactive Manipulation of Rigid Body Simulations" ACM July 2000), in view of Thalmann et al ("Computer Animation" ACM 1996).

Popovic et al. teaches interactive techniques for intuitive manipulation of rigid multi-body simulations (abstract: second paragraph); but doesn't teach simulation kinematics regarding animated body hair or cloth.

Thalmann et al. teaches computer-animated kinematics, which includes modeling hair and cloth (Thalmann: pg. 162, right column, bullets 8 and 9).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to use Thalmann et al. to modify Popovic et al. since this enhancement makes the objects appealable for entertainment purposes.

Claim 6: A method of simulating relative motion of objects according to claim 5 wherein said at least one dynamic object (Popovic: pg. 209, right column, last paragraph) is a representation of hair attached to the animated character (Thalmann: figure 1).

Claim 7: A method of simulating relative motion of objects according to claim 5 wherein said at least one dynamic object (Popovic: pg. 209, right column, last

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paragraph) is a representation of clothing attached to the animated character (Thalmann: figure 1).

Correspondence Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Stevens whose telephone number is (703) 305-0365, Monday-Friday (8:30 am- 5:30 pm) or contact Supervisor Mr. Kevin Teska at (703) 305-9704. The fax number for the group is 703-872-9306.

Any inquires of general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (703) 305-3900.

April 12, 2004

THS


HUGH JONES PR.
PRIMARY PATENT EXAMINER
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